REVIEW.

ART. XI.—*A System of Operative Surgery, based upon the practice of Surgeons in the United States; and comprising a Bibliographical Index and Historical Record of many of their Operations during a period of two hundred years.* By HENRY H. SMITH, M.D., Surgeon to the St Joseph's Hospital; Assistant Lecturer on Demonstrative Surgery in the University of Pennsylvania; Lecturer on the Principles and Practice of Surgery in the Philadelphia Medical Institute, &c. Illustrated by numerous steel plates. Philadelphia, Lippincott, Grambo, & Co., 1852: 8vo. pp. 698.

OUR readers will perhaps remember that, in one of the numbers of this *Journal* of the last year, we noticed the publication of the first two parts of Dr. Smith's volume. We now ask their attention to the work in its completed state.

The book is a very handsome one, typographically, and is exceedingly creditable to the enterprising publishers. The text is elucidated by eighty steel plates, comprising a large number of figures, which are beautifully executed; superiorly, we think, to any that have hitherto been published in this country. Many of the drawings are original, made expressly for this book; most of them are copies, however, from various sources, chiefly from Bernard and Huette, Bourgery and Jacob; several are taken from Auvert's great work. They are small, but possess so much clearness, and definition, and precision of outline as to be of decided assistance to the student of operative surgery. The volume may be had with the plates coloured or plain; the latter, of course, at less expense than the former.

We cannot so well set before our readers the author's aim and intentions in the preparation of the book, as by quoting one or two paragraphs from his preface:—

> "In many portions of the work, the descriptions furnished will be found to be given in as condensed a form as seemed compatible with clearness, and have been thus presented in order to prevent the volume becoming too cumbersome for constant use. In addition to which, the author has not desired to go over ground which has so recently been well displayed by writers both in Europe and this country. Many details of history, pathology, physiology, and surgical proceedings which are essential to a complete treatise upon the subject, have, therefore, been designedly omitted in this as not coming within the scope of its plan.
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> "Although the idea of an instructor cannot be claimed as a novel one, having, in the hands of Messrs. Malgaigne and Fergusson, been most happily illustrated, there has yet been no work issued by the press which has presented the American practitioner with a comprehensive view of the opinions, operative methods, and instruments of those of his countrymen who have given to American surgery a character of its own.
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> "At present, little more than two hundred years have elapsed since the first surgeon stepped on our shores; yet, during that time, many acts have been performed that will favourably compare with the brightest achievements of the surgeons of Europe. To record these points and save them from unmerited oblivion, has been a pleasant duty in connection with the composition of the volume.

"In its formation, the author is under many obligations to various sources, which he hopes he has suitably acknowledged. Basing his description of any operation chiefly on the views of his own countrymen, he has yet felt bound to display along with them the opinions of such European authorities as are universally received as sound; and, to facilitate a judgment on the part of those whose knowledge might not be sufficient for the formation of an opinion of the value of the different methods referred to, he has appended to the account an estimate of their advantages. This estimate, he wishes it to be distinctly understood, is founded solely upon his own opinion, based upon the experience acquired during a devotion of seventeen years, under auspicious circumstances, to the study and practice of a favourite branch of his profession."

If we understand the design of Dr. Smith, it was that his book should be a mirror in which one might see reflected the history and the present condition of "*American Surgery.*"

Have we in this country any system or practice of surgery which really deserves to be called *par excellence American?* Did this branch of science spring up from our soil, as the gay Athenians are fabled to have done, like grasshoppers, from the sod of Attica? Was it not, on the contrary, of exotic origin, as was every other element of the civilization which exists among us at the present time? The plant, has, indeed, taken deep and strong root in our virgin soil, and yields abundantly its good fruit; but the variety and quality of its products are owing in a good measure, we must not forget to acknowledge, to the constant engrafting upon it of the productions of other lands.

Our earliest surgeons came from England, and many of their immediate successors were educated in that country. Since then our young men have been accustomed to study in France, and latterly in Germany. And, probably, our younger surgeons are more imbued with French ideas on surgery than with any other. However, we are essentially Saxon in our mental constitution; and we accordingly find more to attract us in the accuracy, fidelity, wise caution, and practicability of our Saxon relatives, particularly of the British Isles, than in the productions of their more showy and inventive neighbours on the opposite shore of the Channel. So that, in spite of earlier prejudices, our surgeons, as they grow older, gradually lean to the opinions and practices of British surgeons as a basis.

American Surgery, therefore, is a very composite structure. It has been built up partly with materials quarried and hewn by diligent hands at home, partly with similar materials prepared by foreign labourers; and the building must be finished in the same way. Hence any exposition of the history and present condition of American surgery should embrace not only all that we have ourselves done for the advancement and perfection of surgery; but, also, all of value that has been contributed to it abroad. Such, we have no doubt, was the view of the subject entertained by Dr. Smith; and he has accordingly enriched his pages from a variety of foreign sources, and has thereby rendered them infinitely more valuable than they could have been made had he confined himself to the description of what was purely of domestic growth. How far he has succeeded in his endeavours we shall now attempt to show.

Dr. Smith prefaces his book by a brief history of surgery, or rather he cites, the most important facts and occurrences with reference to the progress of surgical knowledge from the earliest times, in a connected and continuous succession. And having brought his enumeration to the period at which our own history commenced, he presents us with a "record of some of the principal facts of interest connected with the origin and progress of medicine and surgery in the United States, arranged to facilitate reference." We need not say that this section possesses much to interest American physicians.

Next, we have a "Bibliographical Index of American writers, on subjects connected with Operative Surgery, from the year 1783 to 1850 inclusive, being a period of sixty-seven years." This list is arranged chronologically, and embraces original works published in this country, translations and reprints, medical journals, papers and essays originally published in the periodicals; the latter are classified according to the subjects of which they treat, and with their titles are also furnished the dates of their respective publication, and the journal in which they may be found. It is not to be expected that such a list should be perfect; omissions could scarcely fail to occur; but we think that it will be found remarkably complete.

Another list furnishes us with the names of American surgeons, arranged alphabetically, with the titles of their papers as quoted in the "Bibliographical Index," just alluded to.

Before entering upon the description of special operations, Dr. Smith devotes several pages to important preliminary matters. These constitute the *first part* of the book. They are considered in distinct chapters and sections under appropriate headings. They include the general duties of an operator preparatory to an operation, and during and subsequent to its performance; duties to the patient; the selection and functions of the assistants; the preparation of, and modes of using the instruments in the elementary and other operations; the means of arresting hemorrhage; the dressings to be applied, &c. These are all matters of great moment, and they have received as much of the author's attention as his space would allow; and wherever illustrations were required they have been profusely introduced, and are of the best kind.

Dr. Smith advocates, and with propriety, the employment of *Anæsthetics* in operations; the particular preparation which he prefers consists of a mixture of one part of chloroform with five of pure ether; and he administers it upon a sponge or handkerchief placed in a truncated tin cone, the summit of which is applied to the mouth of the patient. He has not cautioned his readers sufficiently against the dangers produced by the inhalation of anæsthetics, nor does he at all point out the means by which they may be best counteracted or overcome; an omission, we conceive, of considerable importance, considered in connection with the fact that these agents are now so commonly employed, and that he himself so warmly advises their administration.

The chapter on *Dressings* is less full than we could wish, being made up of hints and suggestions rather than of instructions. The *Sutures* enumerated are those only which are in common use—the interrupted, twisted, and quilled; and these are clearly described. We see no mention made of the spring sutures of Vidal, the platinum sutures of Mr. Morgan, the caoutchouc threads of Mr. Nunneley, the subcutaneous suture of Dieffenbach, and the twisted pin suture of the same distinguished operator. These, and others which might be enumerated, are, it may be, useless refinements; but, employed as they are by men of eminence in their profession, they might very properly find a place in the *Armamentarium* of Dr. Smith. We must, however, do him the justice to say that he considers these matters as belonging rather to Minor Surgery.

Part the second of the treatise before us commences the discussion of special operations, by introducing to our notice those performed upon the *Head and Face.* The descriptions of these are preceded by a sketch of the surgical anatomy of these parts.

The operations practised upon the Head are performed either upon the scalp or upon the bones of the cranium. In the first group, Dr. Smith describes those resorted to in the treatment of *encysted tumours;* nævi, or vascular tumours; cephalhæmatoma, and the mode of dividing the supra-orbital nerve. In the second, he enumerates operations for caries and necrosis of the cranium; trephining the cranium; puncturing the head for hydrocephalus; and the mode of removal of fungoid tumours of the dura mater.

For the removal of the common encysted tumours of the scalp, nothing more is usually needed than a simple or elliptical incision, and the subsequent turning out of the tumour, or the dissecting out of the sac. This is, of course, very properly described; but the after-dressing which the author inculcates is decidedly objectionable. He advises to

> "Cleanse the part thoroughly; see that no portion of the shining sac remains at the bottom of the wound, *and tie or twist a few hairs together over the wound in order to close it;* or, if the incision has been free, apply a compress and bandage. The hemorrhage seldom requires attention, or may be easily arrested by pressure." (P. 71.)

Nothing is more slovenly in appearance than a lock of hair saturated with blood or pus, in contact with a wound of the scalp; and it is liable also to excite inflammation by its irritating and offensive presence. We have been taught to believe that the hair should, as a preliminary step, be removed from the scalp in the vicinity of the part to be operated upon, and that the edges of the wound should be carefully approximated by adhesive plaster. We dissent, in like manner, from his recommendation to arrest the hemorrhage from such operations by *pressure.* If the bleeding come from an artery which can be felt pulsating at some little distance from the margin of the incision, and if it cease when this vessel is compressed, then we would not object to the precept of our author; but we would limit the pressure to the artery directly, not permitting the edges of the wound to be affected thereby. If the compression could not be so limited, we would not resort to it at all, if we could pass a ligature around the bleeding vessel or vessels. We have never seen a ligature, applied to an artery of the scalp, produce any unpleasant effect, and we have always found that pressure made upon a wound to arrest hemorrhage interferes decidedly with reparation, and endangers, if it does not actually induce, sloughing.

Dr. Smith prefaces his account of the operations to be practised for *erectile tumours* by a few remarks concerning their *pathology.* In these, he commits the serious error of confounding the *nævus maternus,* or *mother's mark,* with the true *aneurism by anastomosis* of Mr. John Bell; and the text is so worded that the reader must suppose that Mr. Bell himself so confounded them. He says:—

> "In most instances, these tumours only involve the integuments, and are supplied by one or two vessels, which, entering near the centre of the structure, have no direct vascular connection with the skin of the adjacent parts. Most frequently, nævi will be found of small size, though they occasionally attain the dimensions of a small orange. Being composed almost entirely of enlarged capillaries, the hemorrhage from them will be free when the diseased structure is incised, though it is generally amenable to pressure." (P. 71.)

The class of *erectile tumours* ought not to be thus confounded, not only because they present very wide diversities of structure, but because the treatment demanded by the varieties is equally and necessarily different. One consists in a uniform and permanent dilatation of the capillaries of the true skin, producing considerable discoloration, with but little elevation of the surface. This is a very common form of nævus maternus, or mother's mark; it constitutes a deformity, and nothing more, in most cases; if it bleed, from puncture or abrasion, slight pressure will generally arrest the hemorrhage; it requires no treatment, because it is not usually a source of any danger. Another is constituted chiefly of permanently dilated veins, provided with arterial feeders; it is seated beneath the skin in the areolar tissue, and is elevated above the surface, in the form of a doughy elastic tumour of a livid hue, from the predominance of veins in its structure; if these vessels be opened, they bleed very freely, so as sometimes to endanger life. A third variety of erectile tumour is different from both; it is formed of dilated vessels, arteries, and veins, communicating directly with each other, sometimes one predominating, sometimes the other; the returning veins are large and tortuous, in order to convey away the torrent of blood supplied by capacious and strongly pulsating arteries; the mass constitutes a more or less protuberant swelling above the skin or mucous membrane, according to its situation, is red or livid from turgescence of blood, is always full, and frequently pulsative, presenting even the aneurismal thrill and murmur; if such a tumour as this be cut into, the gush of blood is frightful, requiring for its arrest all the promptitude and energy of an experienced and self-possessed surgeon.

For the treatment of this class of tumours, Dr. Smith enumerates a variety of methods: by *exciting inflammation* through vaccination, or by the insertion of needles heated to a white heat, or threads soaked in a saturated solution of caustic potassa, or a seton; by *producing strangulation* of the mass, by means of ligatures drawn through it and then tied tightly, the skin at its base having been previously incised or not, or by means of threads twisted around needles thrust through it. He also speaks of the plan pursued by Dr. Brainard, of Chicago, in the treatment of small nævi materni—the painting of their surface with collodion. He describes, too, the treatment by excision. The methods spoken of are, therefore, sufficiently numerous and varied to suit all cases; and the author's observations on the value of the different proceedings will materially assist the reader in determining which of them he should resort to in any given instance.

Several pages are devoted to the employment of the Trephine in injuries of the head. The directions concerning the mode of using this instrument are such as are ordinarily met with. The author concludes his remarks upon this topic, by presenting a numerical statement of cases of compound fracture of the skull treated with and without the trephine. He says:—

> "Out of 77 cases of compound fracture of the head, reported by MM. Laurie and King, 29 were cured, and 48 died; 26 of the 77 were not trephined; of these, 18 were cured, and 8 died; that is, more than two-thirds of those not trephined recovered. Of the remaining 51 cases which were trephined, 11 were cured, and 40 died; or not quite one-fifth were cured." He continues: "Of 42 cases of trephining, after injuries of the head, that I have collected from various sources, 28 were cured, and 14 died; or two-thirds of those trephined were cured. Of 14 trephined for epilepsy, 1 died, and 13 were cured. *Summary:* Trephined, 107; cured, 52; died, 55; or nearly one-half of those trephined were cured, including epileptic cases, in which disease, the use of the trephine appears to have been especially successful." (P. 82.)

Statistics are of very little value, indeed they may be mischievous in their effects, unless the particular circumstances attending each case counted be stated. The most opposite inferences are deduced from them, according to the bias of their framers. An illustration of this fact is found in the very tables which we have quoted above: according to the data of MM. Laurie and King, "not quite one-fifth were cured" of those who were trephined; according to Dr. Smith's figures, on the other hand, "two-thirds of those trephined were cured." Hence, as Dr. Smith's avowed object, in presenting these statistics, was "to facilitate a decision in cases where the experience of the operator may be limited," this end is certainly not gained; but, on the contrary, he has succeeded in puzzling his readers not a little to know what they should do in this matter. We would suggest that it had been wiser had he arranged briefly, in a tabulated form, the prominent symptoms present in as many cases of compound fracture of the cranium, and other injuries of the head, as he could collect, together with such other circumstances as might be regarded as of importance, and indicated whether or not the trephine was used in each case, with the result; or had he, after mature reflection bestowed upon the subject, laid down a series of general rules to govern those whose experience has been more limited than his own, and whose opportunities of consulting authorities are more restricted. It is important to know what are the conditions in which trephining is indicated, and is beneficial; what are the objections to the operation; what are the dangers attending and following it; under what circumstances it should be abstained from, although brain symptoms are present. These and similar questions should have been discussed as fully as Dr. Smith's space would permit. The chapter, as it now stands, is very incomplete.

A page is occupied with the operative treatment of *Hydrocephalus*. Dr. Smith very judiciously observes of this affection:—

> "An effusion within the brain, or its membranes, being usually the result of serious organic disease, but little benefit can be anticipated from an operation which simply looks to the removal of the effect instead of the cause of the difficulty. When, however, medical treatment has failed, or as a last resort, and with a view of prolonging life, tapping the head for the removal of the fluid may be deemed worthy of trial, although the *post-mortem* examination, in most instances, leaves but little reason to anticipate the general adoption of this operation."

He then mentions the names of *four* Americans who have performed the operation, and refers to *one* successful case as having been reported by Dr. James Vose, of Liverpool, in the *Medico-Chirurgical Transactions*, vol. ix.

It seems to us that the author is inexcusable for giving his readers such a *minimum* of information upon this subject, since he alludes to statistics at all, when data much more adequate for the determination of the propriety and the probable result of the operation are so accessible. To say nothing of what is contained in the general treatises on the practice of medicine, and in monographs on cerebral affections, he had at his command the interesting paper of Dr. Conquest, in the *London Medical Gazette*, for March, 1838;[1] the still more elaborate and critical essay of Dr. West, in the same Journal, for April, 1842; and the able paper by Durand-Fardell, in the *Bulletin Gén. de Thérapeutique*, vol. xxiii. A short digest of these papers would have placed himself and his readers in possession of a reliable fund of information, on which to found an opinion in any proposed operation for hydrocephalus chronicus.

The perusal of the articles above mentioned would, moreover, have induced Dr. Smith to modify somewhat the plan of operation which he recommends. He says:—

> "Introduce a needle and canula, or a fine trocar, at any point of the fontanelles, or other opening in the head, not likely to interfere with the sinuses; and, after evacuating the fluid slowly and cautiously, make moderate compression upon the cranium, either by the turns of a roller or by strips of adhesive plaster tightly applied."

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[1] See also this Journal for Aug. 1838, p. 477.

We would caution the young readers of Dr. Smith's book against performing this serious operation in precisely the manner which he advises. We will quote for their benefit the remarks of Dr. Conquest upon this point, as he has performed the operation perhaps more frequently and more successfully than any other surgeon of our own days. He says:—

> "The operation consists in passing a small and delicately constructed trocar into one of the lateral ventricles, and drawing off so much fluid as the powers of the constitution will admit of. The most eligible spot at which the trocar can be introduced is in the course of the coronal suture, about midway between the crista-galli process of the ethmoid bone and the anterior fontanel, so that the danger of wounding the corpus striatum is avoided on the one hand, and the longitudinal sinus on the other. The instrument usually penetrates about two inches, and in most cases the serum has been colourless, but occasionally tinged with blood. In one instance, and that was in the last child operated on at St. Bartholomew's, only a few weeks since, a large and alarming quantity of florid blood escaped, most likely from a branch of the meningeal artery. Sometimes, on withdrawing the trocar, the water will not flow until a probe has been passed along the canula to remove portions of cerebrum which block it up. After taking away all the fluid that can be removed consistently with safety, the head, *which should always be steadily compressed by an assistant during the operation*, may be strapped with adhesive plaster, that it may retain its diminished size, and that the fearful consequences of suddenly removing long-continued pressure from the brain may be averted."—*Med. Gaz.* vol. xxi. 967.

These same papers again would have reminded Dr. Smith, that there is still another method of treating this disease, which he has not alluded to, but which is applicable to, and has succeeded in, a certain number and kind of cases. We refer to the compresson of the head—a plan long ago employed, but which was revived by Sir Gilbert Blane, at whose recommendation other physicians made trial of it; since his time, Mr. Barnard, of England has experimented with it, and in the year 1839 published a volume on the subject. The predecessors of Sir G. Blane, and this gentleman himself, employed common bandages; since then adhesive plaster has been used. This method has sometimes succeeded, and it should have had honourable mention in the book which is under our review.

Dr. Smith speaks distrustfully of the injection of a solution of iodine into the arachnoid cavity, originally suggested by Velpeau, and recently executed by Dr. Brainard, of Chicago.

The only remaining operation proper to the cranial region, of which the author speaks, is that for the "removal of fungoid tumours of the dura mater." His observations concerning it are very appropriate, and he describes the proceeding of Dr. Warren in an interesting case of the kind.

From the analysis which we have made of these two chapters, and our comments upon them, our readers will perceive that Dr. Smith has committed several omissions of more or less importance. We will instance a few in addition to those to which we have already drawn their attention. We find no allusion to the occurrence of dilated and tortuous veins upon the scalp, of which Mr. Fergusson cites several remarkable cases; no mention of the existence of fatty and other solid tumours, both simple and malignant, of the same part; osteo-sarcoma, osteo-cephaloma, and spina ventosa of the cranium are in like manner overlooked. He should certainly have noticed *spina ventosa* of the calvarium, for probably there never was a more remarkable example of it than that which was presented to an American surgeon, the late Dr. Geo. McClellan, the description of which, and of the operation practised upon it, has been detailed at considerable length in that gentleman's posthumous work, edited by his son.

Operations upon the *Face* occupy rather more than eighty pages of the text, and are illustrated by fifteen plates. A succinct description of the anatomy of the different parts concerned, precedes the relation of the surgical proceedings which are practised upon them. Our limits will permit us to examine but a few of these. We will therefore make the general remark that a variety of operations are described and pictured for every affection which is brought prominently forward, so that the reader has the opportunity of exercising a selection, whenever a choice seems expedient. We may occasionally differ from the author as regards the comparative merits of certain procedures which he recommends, and we may think that he has omitted some which it would have been well to have described; it is very likely that some of our readers will, in their turn, differ from us.

Ectropium and *Entropium* are two of the most troublesome affections which the ophthalmic surgeon is called upon to treat; and consequently a great variety of mechanical means has been devised to remedy them.

Dr. Smith says, that *Ectropium*

> "May result either from adhesion of the external surface of the lids to the surrounding integuments; from a diseased condition of the conjunctiva, or of the tarsus cartilage, or from want of power in the orbicularis muscle.
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> "In the simpler cases of the disease, or those resulting from an hypertrophied condition of the conjunctiva, much may be accomplished by free leeching; astringent collyria; cauterization of the conjunctiva in lines parallel to the fibres of the orbicularis; or by the excision of a fold in the same direction, by raising it with the simple forceps and removing it with fine scissors. But in more obstinate cases, blepharoplasty, or the formation of a new lid, must be resorted to, in order to enable the tarsus cartilage to apply itself properly to the ball."

The proceedings which he explains are of two kinds: the blepharoplastic, the formation in whole or in part of a new lid; and the shortening of the lid by removing a portion of it. He describes a sufficient number of each of these to enable any one who has comprehended the principle and aim of the operation, to modify and combine them to suit peculiar indications.

We cannot refrain expressing our dissent from the advice which he gives in the second paragraph as we have quoted it, viz.: to cauterize the conjunctiva in lines parallel with the fibres of the orbicularis, or to excise a fold of this membrane in the same direction by the aid of forceps and scissors. Any such proceeding will destroy the smoothness and pliability of the conjunctiva, and a permanent irritant will be thereby engrafted on the eye, which will induce great alteration of structure of the tunics of the globe itself.

Entropium, he observes, is the reverse of the last-named affection, and demands a treatment modified according to its causes: astringent collyria; the traction exercised by adhesive straps; the production of a slough in the integuments of the lid by the action of caustics, trusting to contraction of the lid in cicatrization to effect the cure; finally, more or less complicated incisions practised upon the offending lid, whereby a portion of it is removed.

Of the latter class of operations, he mentions three: that of Janson, which consists in the excision of a fold of the integuments upon the upper surface of the lid, parallel with the palpebral fissure, and sufficiently large to correct the deformity when the edges of the wound are united; that of Dr. Dorsey, of Philadelphia, performed in 1810, *by cutting away enough of the margin of the lid, including the tarsal edge, to remove the ciliary bulbs, and then uniting the edges of the wound by suture;* lastly, that of Mr. Saunders, performed according to Dr. Smith, about the same time as Dr. Dorsey's; but, as Dr. Dorsey said, without his knowledge of its having been executed. There is really not enough similarity between the two to make it necessary to vindicate Dr.

Dorsey from plagiarism, although this is easily done, for Mr. Saunders's operation was not publicly described until 1811, while Dr. Dorsey's was performed, as already stated, in 1810. Dr. Farre, the biographer of Mr. Saunders, and the editor of his writings, states, however, that the account of this operation was written in 1809; and from this account, we should infer that Mr. Saunders had practised it for some time previously.

Mr. Saunders's operation is thus described by Dr. Smith:—

> "Introducing a thin plate of horn or silver with a curvature corresponding to that of the eyelid, the lid was stretched upon it and an incision made through the integuments and the orbicularis muscle, immediately behind the roots of the cilia, to the tarsus, from the punctum to the external canthus. Then dissecting off the exterior surface of the tarsus until the orbitar margin was exposed, the conjunctiva was cut through by the side of the tarsus, and disengaged at each extremity. Sutures subsequently united the remainder of the tarsus to the upper edge of the wound, and also left but little deformity."

This last step did not form a part of Mr. Saunders's operation; he used no sutures, and makes no mention of them in his description of the proceeding, but allowed the wound which he made in the lid to heal by granulation. He says, indeed, that in all the patients on whom he operated, "a fungus of considerable size sprouted from the centre of the section;" and directs that it be sufficiently repressed by caustic or the knife. (Mr. Saunders's *Treatise*, edited by Dr. Farre. London, 1811, pp. 53–54.)

Dr. Smith prefers the operation of Dr. Dorsey to that of Mr. Saunders—

> "From its simplicity, as it only requires that a tenaculum should be passed through the edge of the eyelid, in order to gain a secure hold; and then, seizing the lid in a pair of forceps, that a sufficient portion should be removed by two or three clips of the scissors." (P. 103.)

In this comparative estimate of the two proceedings we cannot agree. Simplicity and facility of execution are, it is true, important recommendations in favour of any operation, provided they are not gained at the expense of equal disadvantages. The simplest and easiest way of removing a leg, is certainly to make a single circular sweep with a knife around and through the soft parts to the bone, and to divide the latter by a few movements of the saw, or to chop it off at once with a broad axe; but this plan, very well adapted to the purposes of the *butcher*, presents so many objections to the *surgeon*, that it is not recommended as a mode of amputating. And so, with reference to the operation of Dr. Dorsey, it may be done in a moment by any one who can use knife or scissors; it is objectionable because it removes important parts altogether unnecessarily; parts, the preservation of which is of consequence to the maintenance of the healthy condition of the eyeball, as will be readily understood when the offices of the anterior portion of the eyelid, and of the glandular organs connected therewith, are considered. We conceive that Mr. Saunders's operation is, therefore, a much more scientific and surgical proceeding than that of Dr. Dorsey.

There is a modification of Mr. Saunders's plan of remedying entropion, by which the conjunctiva is untouched, practised by Jaeger; and an improvement on this, again, by Mr. Wilde, of Dublin, in which the margin of the conjunctiva is united by fine sutures to the edge of the incision made in the integument. These operations might with propriety have been alluded to by Dr. Smith. Those of Sir P. Crampton, Mr. Guthrie, Mr. Tyrrell, Dr. Jacob, and Wharton Jones, as they have been warmly advocated and are still very often performed, should have been noticed also.

We pass over, without detaining our readers by a critical examination, a long catalogue of varied and important operations performed upon the eye, the face, and the cavities which are connected with it. We might point out omissions here and there, and errors in pathology, more or less harmless, as we have done in the preceding pages. But we would not fail to acknowledge that these chapters contain a great deal of very excellent matter; descriptions of a great variety of beautiful and important operative proceedings, well suited to remedy the diseases and deformities to which they are applied; interesting historical facts connected with the practice of surgery in this country; in short, much that will assist the operator in some of the most delicate manipulations which he will have to perform.

From among the operations described we will call attention to those practised for the removal of the *Superior* and *Inferior Maxilla*, to which Dr. Smith devotes many interesting pages. The happy proceeding by which the late Dr. Horner amputated the former bone, without any external incision of the cheek, and *without removing the floor of the orbit*, is detailed at length. It strikes us that Dr. Smith does not lay sufficient stress upon this latter point, which is of so much consequence to the preservation of the eye. In the 3d vol. of the *Transactions of the American Medical Association*, pp. 363–4, Dr. Smith might have found some very applicable remarks upon this subject, by Dr. Atlee, of this city. And, on the same page, Dr. Mussey, of Cincinnati, describes the plan which he has pursued for many years, by which the preservation of the orbital plate of the superior maxillary bone has been secured, and the motions of the eye have been perfect ever after.

The history and description of the operations performed for the removal of the *Lower Jaw* are fully set forth, and the connection of American surgeons with this achievement is properly insisted on, Dr. Deadrich, of Tennessee, having been the first to prove its feasibility.

In the amputation and disarticulation of this bone, as commonly accomplished, paralysis of the facial muscles results in consequence of the division of the facial nerve. This is a serious evil, and should have been noticed by Dr. Smith; especially since an operation was performed by Dr. Mussey, and described by him in the volume just quoted from, p. 365, in which this accident was skilfully avoided. This, Dr. Mussey thinks, is the first, and so far the only case, in which the nerve was not cut.

Operations upon the *Neck and Trunk* constitute the subject of the *third part* of this treatise. To their elucidation are devoted nearly two hundred and fifty pages, and twenty plates. They relate to the parotid gland, the larynx and trachea, the pharynx and œsophagus, the ligature of the great vessels of the neck, injuries and diseases of chest, abdomen, and spine, &c., &c.

After giving a very good description of the *anatomy* of the cervical region, drawn chiefly from Blandin's *Anatomie Topographique*, Dr. Smith takes up the diseases of the *parotid gland*, which require surgical interference. The reader is properly cautioned against mistaking tumours and degenerations of the *lymphatic glands* of this region for alterations of the parotid itself. An error which, it is believed, has been frequently committed. The author draws attention to the fact that hypertrophy and other structural changes of this body, modify materially its relations with neighbouring parts, render it more condensed, more concentrated upon itself, and thereby more easily dislodged from its naturally deep bed. He says:—

> "That surgeons have been misled in relation to the difficulties of the removal of this gland (when diseased), from comparing the operation with that attempted in a state of health, is certain, and daily experience is now leading many to place confidence in the views of those surgeons of the eighteenth century who advocated the operation." (P. 236.)

A brief historical sketch of the operation is given, from which it appears that Dr. Warren, of Boston, first removed the entire gland in this country, viz., in 1798; but to the late Dr. Geo. M'Clellan is chiefly ascribed the currency of the proceeding as a practicable one, this gentleman having performed it more frequently, probably, than any other surgeon of any country; viz., eleven times.

The processes employed by Drs. M'Clellan, Mott, Randolph, and Horner, are described, and some very good general remarks are presented upon the different steps of the operation, and a variety of important points connected with it. We quote the following:—

> "*Statistics.*—Of eleven cases in which the parotid gland was extirpated by Dr. Geo. M'Clellan, one died on the fourth day from hemorrhage,"

(a mistake, by the way, for the patient "sank, under *coma* on the fourth day after the operation, from the effect of the ligature around the common carotid artery."—M'Clellan's *Principles and Practice of Surgery*, p. 332,)

> "and one died three years subsequent to the operation. Three cases have been operated on successfully by Dr. J. C. Warren, of Boston; one by Dr. J. H. B. M'Clellan, of Philadelphia, successfully; and one each by Drs. Mott, Horner, and Randolph. From an examination of the account furnished by Velpeau, it appears that there are over thirty-five cases of this operation, in which there is good reason to believe the entire gland was extirpated; making, in all, fifty-three cases of removal." (P. 241.)

It is to be regretted that Dr. Smith did not present a careful analysis of this considerable number of cases of so important an operation; stating the nature of each; its duration previous to its removal; the result of the operation relative to the return or non-return of the disease, the size of the tumour, &c. In this way, some reliable precepts might have been propounded touching the true pathology of parotid tumours, the expediency of removing them, and the conditions which demand or justify this course. The statement of Velpeau, which is referred to by Dr. Smith, is too meagre to justify any important inference upon these points; indeed, we do not think it warrants the deduction of Dr. Smith, that the entire gland was removed in even thirty-five cases. But Velpeau gives references, in most instances, to the sources whence he obtained his facts, and perhaps an examination of these would have enabled our author to lay before his readers a more satisfactory account of parotid tumours than has yet been published.

Dr. Smith is evidently under the impression that these tumours are *cancerous*. That some of those which have been removed were cancerous, generally scirrhous, we do not doubt; but there is very little reason to think that they were such in most instances. The recovery of so large a number of cases after operation, is too entirely contrary to our knowledge of the ordinary termination of cancer elsewhere, to permit us to believe that these were of that character; and the reports of the examinations of the tumours removed have been ordinarily so imperfect as to throw very little light upon this question. In some of the cases cited by Velpeau, it is expressly stated that the tumour was of a simple character; Lebert found that in one instance in which a supposed cancerous parotid was removed the gland was merely hypertrophied, and in another that only a fibro-plastic exudation existed in this body.

But the cure of these parotid tumours has been attempted in another way:—

> "In order to avoid the necessity of resorting to extirpation of the parotid in cases of scirrhus," says Dr. Smith, "long-continued compression of the gland

or ligature of the carotid artery, has been occasionally practised. After ligating the primitive carotid, Dr. Alexander E. Hosack, of New York, succeeded in causing the entire absorption of this gland in two cases; and, in a third, absorption had visibly commenced.

> "In estimating the value of this operation, one difficulty certainly exists, and that is, the utter impossibility of deciding whether the tumour is formed by the parotid, or by the adjoining lymphatics. Under ordinary circumstances, any surgeon who could accomplish the ligature of the artery could also remove the tumour, render the removal of the disease certain; and, under the use of anæsthetics, cause his patient but little additional suffering. The selection of either of these operations must, therefore, depend chiefly upon the abilities of the operator."

Dr. Smith has not displayed, in this opinion, his usual good judgment; and we do not believe that he expresses the sentiment of the generality of American surgeons. There is little comparison between the risks of tying the carotid artery simply, and of not only doing this, but, in addition, of removing a large tumour from a part so beset with difficulties as the parotid space; and, certainly, the success which has followed this treatment in Dr. Hosack's cases, and in many others not essentially dissimilar (See Walshe, *on Cancer*, p. 204), renders it, at least we think so, a preferable proceeding; particularly as the other operation is not thereby prevented, subsequently, but is rather facilitated if the simple ligature of the vessel have failed. The choice of the operations should not, we conceive, "depend chiefly upon the abilities of the operator," but upon the peculiarities of each case: the size and mode of growth of the tumour, its degree of vascularity, its probable pathological character, &c.; the mere application of a ligature around the carotid, or the ablation of a parotid tumour, are, comparatively speaking, *bagatelles*. And, if Dr. Smith is correct in supposing that these growths are cancerous, the former operation we should consider as decidedly the more feasible of the two, so far as the patient is concerned.

The operations for the relief of *œdema of the glottis, and for the removal of foreign bodies*, or other *obstructions*, from the *Larynx and Trachea*, receive from the author a degree of attention proportionate to their importance, and the urgency of the symptoms which call for them. Of those by which *Tracheotomy* is accomplished, he prefers that of Dr. Pancoast, of this city. The advantages which this possesses over all others are:—

> "First, less risk of hemorrhage, in consequence of lacerating the parts about the median line of the muscles, instead of dissecting them, as well as from ligating the isthmus of the thyroid gland previous to incising it. Second, the preservation of the opening in the trachea without irritating its lining membrane, or resorting to an instrument that exposes the patient to the risk of suffocation by its escape from the wound, or by its clogging with the secretions of the part. And, third, the power of looking into the windpipe, and judging accurately of its condition, or of applying remedies to correct it, if desirable." (P. 257.)

Dr. Smith describes and gives a drawing of a neat and simple contrivance of his own, by which the wound in the integuments and trachea may be kept open without using a trachea-tube. It consists of two broad pieces of watch-spring, so connected at one extremity that one of the pieces may slide over and upon the other, and be secured, by a screw, at any point; the other extremity of each is bent like a hook. The instrument is placed around the neck from behind, the hooks are caught under the edges of the incision, and are made to exert the requisite traction by regulating the length of the band, with the aid of the screw.

The difficulties and dangers attending the operation, the circumstances calling for it, &c. &c. are dwelt upon. A statistical table is given of 245 cases, in which tracheotomy was resorted to for croup. Of these, 57 were cured, and 188 died; but Dr. Smith remarks that in almost all of these cases the wound was kept open by means of a canula introduced through the incision into the windpipe, and that the operation was not resorted to until nearly every other means had been tried. In contrast with this, he presents a table of 28 cases, in which the operation was executed for the removal of foreign bodies lodged in the trachea, only one of which died; proving that the fatality of the operation in croup was owing, not to the mere opening of the windpipe, but to circumstances connected with the disease.

He truly states, we suspect, that, in this country, the opinion of the profession is adverse to the operation. But, he says:—

> "In most of the cases reported, tracheotomy was deferred until the complaint had existed some time, and progressed from the larynx into, or induced congestion of, the lungs, or augmented the dangers from the incisions, by causing engorgement of the vessels of the neck, as well as an unhealthy condition of the lining membrane of the trachea at the point operated upon. Until, then, we can acquire such statistics as will show that the cases operated upon at an early period after a positive diagnosis of membranous croup has been made, and operated on so as to leave an opening not liable to clog with mucus, as well as free from the continued irritation that has been caused by the presence of a tube, correspond with the mortality under the former mode of operating, the question must be regarded as unsettled. Cauterization of the pharynx and trachea through the mouth, together with early depletion, calomel, and emetics, have saved many cases of true membranous croup, and will, consequently, be a strong argument against the performance of an early operation. But when croup occurs in those who are hereditarily predisposed to it, or when other members of a family have died from it, I would advise an early operation, and anticipate more success from it than I should from medical means alone, provided the operation was resorted to before the inflammation had reached the portion of the tube which was to be opened, and the wound in the trachea was kept open, either by the hooks introduced upon its sides; or, if that was not sufficient, by their being placed upon the edges of the rings themselves. But I would not advise tracheotomy in any case where the operation had been delayed until asphyxia was threatening, and the blood had ceased to be well aerated." (P. 260.)

One of the most important points of this question has not been mentioned by the author, although it is *the one* upon which the performance of the operation is made to depend. He "would advise an early operation, provided the operation was resorted to *before* the inflammation had reached the portion of the tube which was to be opened." How will he determine this important fact? That the most experienced auscultator cannot always decide it is admitted, because the tracheal sounds are so loud as to overwhelm the fainter vesicular murmur, even when the pulmonary vesicles do expand. In proof of this, we refer to the cases reported by Dr. Pepper to the College of Physicians of this city, and published in the volume of their *Transactions* for 1852. In one of the cases reported, a vesicular murmur *was supposed* to have been heard; and yet, after death, in spite of tracheotomy, a false membrane was found lining even the minute ramifications of the bronchial tubes; in the other, it was inferred, from careful and repeated auscultation, that the exudation was equally diffused, as in the first case; an operation was proposed, but not urged; it was consequently declined by the parents of the child. After death, the false membrane was found *limited to the larynx*, and quite delicate.

We are ourselves decidedly in favour of tracheotomy in membranous croup, and of its execution prior to the supervention of those symptoms which indicate that the sensibilities and recuperative energies and powers of the nervous system are failing under the paralyzing influences of undecarbonated blood. And we would advocate the performance of the operation, because we know that recovery, without it, is almost hopeless, especially if the application of nitrate of silver to the interior of the larynx has been tried in vain; because tracheotomy has succeeded at times, even in the most desperate cases, and almost always affords temporary relief; because its performance is generally not difficult; and finally, because, inasmuch as we cannot, with any degree of certainty, determine the extent of the plastic exudation, and the operation may effect permanent relief, we think it our duty to give the patient "the benefit of the doubt;" to offer, indeed, the only possible means of rescue from what seems otherwise a certain, and, to the friends if not to the patient, an agonized death. The question, how long the operation may be delayed, or how long a person may suffer from imperfect aeration of the blood, and yet be saved, is one which Dr. Smith has not attempted to solve; and in this prudent reserve we shall imitate him.

There are a few important items belonging to the management of the case subsequent to the operation, which have escaped Dr. Smith's attention, viz., the proper temperature and hygrometric state of the air of the apartment, &c. &c.

We see no mention made, in this volume, of *Polypus of the larynx*, and of the operations to be performed for it. The author would have found materials for a notice of this affection in the excellent Essay of M. Ehrmann, of Strasbourg, an analysis of which was presented to our readers in the number of this *Journal* for April, 1851.

We commend highly the observations of Dr. Smith upon the operations performed on the *Pharynx* and *Œsophagus*, with one reservation. After describing the operation for opening the œsophagus in impassable stricture, attempts at dilatation having failed, he says:—

> "Deeming the relief afforded by it dearly purchased at the risks of the operation, except in very skilful hands, I cannot but think that the dangers of making an opening directly into the stomach, as referred to by Dr. Watson (of New York), in the paper before quoted, are certainly not greater than those incurred in œsophagotomy. The number of instances in which wounds and openings into this organ have not proved fatal will, on examination, be found to be much larger than might, at first sight, appear probable." "In the event of the distribution of property, or to accomplish some great moral good, or in order to fulfil an important duty to another, a patient might desire to prolong life, if possible, even for a few weeks; and, under such circumstances, it may become imperative on a surgeon to resort to such means as will enable him to gain the desired time." (Pp. 279-80.)

We would suggest that, ere advising a procedure of this kind, Dr. Smith should have placed at the command of his readers all the facts which Dr. Watson and others, as well as himself, have been able to collect, having any bearing upon the matter at issue. To support the propriety of opening the stomach, in such cases as he alludes to, by simply reminding us that certain individuals have lived for some time after "wounds and openings into this organ," is ridiculous. There is a case on record, in which a man was pinned to a wall, his chest transfixed by the shaft of a gig; there is another, in which a bar of iron was driven through the skull; recoveries from such injuries as these do not, we conceive, afford us any warranty for wilfully attempting a repetition of them. And if, as the author says, the main object of the operation be merely to gain a little time for the patient, we cannot but think that the probability of such a result is smaller than if he were let alone, and nourishment introduced by some other avenue. To open the stomach of a man who is dying of stricture of the œsophagus, in the vain hope of adding a few days to his miserable life, seems very much akin to thrusting him "out of the frying-pan into the fire," if we may be permitted to employ the expression.

The next chapter describes "operations demanded for the relief of *Deformities of the Neck*," including those resulting from burns. These are well explained, and honourable mention is made of the Warrens, Dr. Mütter, and other American surgeons who have distinguished themselves in such cases.

Between twenty and thirty pages are allotted to *Tumours of the Neck*, their general pathology, diagnosis, and the methods of removing them by operation; and the text is illustrated by several beautiful drawings. The author quotes the reports of operations practised upon some remarkable growths of this kind on the neck, by Drs. Warren and Mott. This whole chapter may be referred to as being one of the best in the book.

The accidental introduction of air into the veins, which has elicited so much valuable investigation, the effects produced by it, the method of counteracting them, and of preventing the occurrence of the mishap—these points have received scarcely any comment from the author; indeed, such a casualty is only once alluded to, and that in connection with one of the operations of Dr. Warren.

The succeeding three chapters discuss the processes resorted to in the *Application of Ligatures to the great Arteries of the Neck.* The special operations, in which many American surgeons have made themselves eminent, and the histories of which are traced by Dr. Smith, are preceded by some general remarks on *aneurism*. The author does not, of course, devote much space to the general pathology of this disease, but enunciates the principal rules to be followed in the diagnosis of aneurismal tumours, and in ligating the vessels; these directions he quotes chiefly from Lisfranc. In what relates to these practical matters, Dr. Smith's book may be consulted with advantage. The text is, as elsewhere, well elucidated by numerous anatomical views and representations of instruments. Valuable statistical tables are also presented in connection with the operation upon each vessel.

We are considerably surprised to find, in all these chapters, no allusion whatever to the modifications of Hunter's operation proposed by Brasdor and Wardrop. The proceeding of Mr. Hunter, it will be recollected, consists in the application of the ligature around the artery on the *cardiac* side of the aneurism; that of Brasdor on its *distal* side, but near to it, in order that no branch shall leave the diseased vessel between the tumour and the site of the ligature; Mr. Wardrop's, in ligating only one of the two branches into which the main trunk divides, the aneurism being on the cardiac side of the bifurcation; *e. g.* tying the common carotid or the subclavian for aneurism of the innominata. Hunter's plan is unquestionably the most generally applicable of the three, and Mr. Wardrop's the least so, because a considerable branch remains more or less pervious between the ligature and the tumour, so that the circulation through the latter is but partially arrested. In aneurism of the *common carotid* artery at its origin, however, Brasdor's operation offers the only chance of curing the disease by direct remedial means, for ligature of the innominata is certain to end in the patient's death. Mr. Wardrop suggested his operation, not as being superior to either of the others, but as "a mode which is more particularly applicable to the treatment of aneurisms so situated that neither the operation of Hunter nor that of Brasdor can be performed." (*Cyclopædia of Practical Surgery*, vol. i. p. 226.) The grounds upon which the propriety of the proposition was based are, that in many cases of aneurism in which the artery had been tied above the tumour, and the aneurism thereby cured, the current of blood through the latter had not entirely ceased, but had simply been moderated to a certain degree, as has also been the fact in many instances in which *compression* has succeeded; and that, in many cases of aneurism of the anonyma, nature commences a process of cure by diminishing very materially, or completely arresting, the flow of blood through one of the bifurcating branches. In Mr. Wardrop's paper, several instances of this kind are adduced: one in which the circulation through the right carotid had diminished so much that the pulsations of the vessel could scarcely be felt; another, in which this artery had become completely obstructed, not only by the pressure of the aneurismal tumour with which it was in close contact, but also by a delicate false membrane which covered the orifice of the vessel at its origin from the sac; a third, where the consolidation had been accomplished by the obliteration of the subclavian as well as the carotid; a fourth, in which "the action of the right carotid was much more feeble than that of the left, and its branches did not pulsate; the right subclavian beat naturally, whilst the axillary and brachial vessels could scarcely be felt." And, in addition to these cases, in the *Pathological Catalogue* of the Museum of the Royal College of Surgeons, vol. v. pp. 258–60, are descriptions of five preparations of aneurisms of the innominata; in two of these, the right subclavian and carotid are healthy; in one they are a little dilated; in the fourth, "between the first rib and the clavicle, the subclavian artery is obliterated, probably by the pressure of the aneurism;" and in the fifth, "the right carotid artery adheres to the front of the sac and is flattened by it; the right subclavian adheres to its lower part, and is obliterated by its pressure." The result of the operations which have been practised according to the plan of Mr. Wardrop, has not been unsatisfactory, if the fatal character of the aneurism, when left to itself, be considered. Mr. W. reports eight cases in which the operation has been done; in five, the ligature was placed around the carotid, and, in three, around the subclavian. "In five of the cases the operation was followed by relief of all the symptoms, and by consolidation and a diminution in the bulk of the tumour. The three other cases were unsuccessful; but this militates not against the principles of the operation itself, but the injudicious selection of the patients in whom it had been employed," &c. *op. cit.* p. 236. Of the first five, two were entirely cured; one lived twenty-three months; one, eight months; one, twenty months. Of the three other cases, one lived only a month, the ligature still remaining in the wound; another survived only a few hours; in the third, the time of death is not given, but the aneurism, after diminishing for a while in bulk, soon increased and ultimately proved fatal.

In determining which of the two branches should be tied, Mr. Wardrop advises that if one of the two be partially obstructed the other should be ligated; when the caliber of both seems about equal, that the *carotid* should be selected, in imitation of nature's mode of spontaneous cure; the carotid being more commonly plugged up than the subclavian; and, moreover, the carotid is more favourably circumstanced for the ligature than the other, because no branches are given off between the ligature and the sac.

From these considerations, therefore, we repeat that Dr. Smith should have treated of these two modes of operating.

Operations upon the *Chest* are described in the next three chapters, embracing those for extirpation and resection of the clavicle and scapula, for ligating the axillary artery beneath the clavicle, operations upon the mammary gland, the removal of tumours of the chest, resections of the ribs, paracentesis thoracis, paracentesis of the pericardium, &c. &c.

There is in these chapters much, very much, to commend; and there is, likewise, reason to regret the omission of some important matters.

The twenty-four pages devoted to the subject of *Mammary Tumours* will well repay a careful perusal, particularly with reference to the operations performed for their removal, both as to the *modus operandi*, the expediency of the measure, and its effect on the subsequent course of the constitutional disease, if such exist. And we take pleasure in stating that, in connection with the removal of these tumours, as also in the description of the extirpation of the clavicle, Dr. Smith strongly cautions his readers against the danger of air rushing into the large veins implicated in the operations, the omission of which warning in operating upon tumours of the neck we before alluded to. His authorities on the pathological relations and constitution of mammary tumours are, principally, M. Velpeau, Sir A. Cooper, Dr. Parrish, and Dr. Warren; a reference to the investigations of Sir B. Brodie, Mr. Paget, Lebert, Walshe, Robin, Bérard, Brocha, and Birkett, upon these affections would have been very *à propos.*

Empyema and the operations for evacuating the fluid are discussed very fully and fairly. The mode of tapping the *pericardium*, though the operation is stated to have been several times performed, and once *successfully* by the elder Dr. Warren, supposed, indeed, to be the only really successful case, is not described.

The most unsatisfactory and incorrect account is given of the operations practised upon the Clavicle and Scapula.

In his remarks upon "*Extirpation of the Clavicle*," Dr. Smith says:—

> "The only real cases of entire extirpation of the bone that I have been able to find recorded, are those performed in the United States by Drs. Mott and Warren."

He then describes these operations in full, and very interesting and instructive details they are. Subsequently, in treating of resection of the sternal end of the clavicle, he cites the instance in which M. Velpeau operated on the bone for necrosis, and that in which Dr. Davy, of England, amputated a portion of its sternal extremity, to remove the pressure exercised by it upon the œsophagus after dislocation. Now we find that Mr. South (*Translation of Chelius*, vol. iii. p. 763) reports several other instances in which the collar-bone was entirely removed; once by Cuming, at the Naval Hospital at Antigua, after amputation at the shoulder-joint, and removal of the scapula in consequence of a gunshot wound; once, each, by Meyer and Roux, for caries; once by Travers, the acromial extremity being disarticulated, and the clavicle divided as near to the sternal end as was practicable. Chaumet, of Bordeaux, also removed *four-fifths* of the clavicle on account of a tumour originating from it.

As regards similar operations performed upon the *Scapula*, Dr. Smith has only this to say:—

> "*Resection of the Acromion Process of the Scapula.*—The resection of this process would be an operation so very similar to that of the acromial end of the clavicle, allowance being made for the position of the muscles and other parts, that it can be readily understood without farther reference." (P. 351.)

One would certainly be justified in inferring, from the above paragraph, that no larger part of the scapula has ever been removed than its acromion process, or, at least, that Dr. Smith knows of no more extensive ablations. We again refer to Mr. South and Chelius for more information, and are surprised to learn that large portions of the scapula have been repeatedly resected. Haymann removed all below the glenoid cavity and the spine (of the scapula); and, after the patient's recovery from the operation, the upper arm could be moved in most directions, its elevation alone being interfered with. Mr. Liston, in 1849, removed about three-fourths of the scapula, leaving only the glenoid cavity, the processes, and half of its spine. Janson removed a large portion of the bone, but left the glenoid cavity. Mr. Luke, in 1828, left only the glenoid cavity and a very small portion of the spine, the latter having been sawed through very close to the former, and in an oblique line, so that the superior angle of the bone was removed with the body. Mr. Syme "sawed through the neck of the scapula and removed a portion of the bone, including the corocoid process." Mr. Travers, in 1838, removed all the scapula immediately below its spine. And we find that Dr. Gilbert, of this city, "removed about one-third of the clavicle and the neck of the scapula." (M'Clellan, *op. cit.* p. 423.)

But a still more remarkable oversight on the part of Dr. Smith is yet to be mentioned; we refer to the *Removal of the entire Scapula with a part or the whole of the Clavicle*, a proceeding to which he makes no allusion.

This is an omission the more surprising because the operation was first done in this country, and has since been repeated here. Reverting again to Mr. South's edition of *Chelius*, we find that, in 1837, Dr. Mussey, of Cincinnati, at that time, however, of New Hampshire, removed the whole of the scapula and clavicle at one operation; in 1838, Dr. Geo. M'Clellan, of this city, repeated the exploit, not having known of Dr. Mussey's. (See M'Clellan, *op. cit.* 412.) Rigaud, of Strasbourg, removed, in 1841, the whole of the scapula, and, in 1842, the outer portion of the corresponding clavicle; in 1847, Mr. Fergusson accomplished an equal abstraction in a single operation; in 1830, Gætani removed the humerus, the scapula, and the external portion of the clavicle.

It is certainly unfortunate that, in a book which aims at recording the important operations of American surgeons, achievements of such magnitude as these which we have now adduced should not be chronicled in their favour. A glorious change must have taken place within the memory of our elders in the profession, if they may turn, and not in vain, to "*perfide Albion*" for the justice which one of their own sons has failed to award them. Nor is it less to be regretted that Dr. Smith should have neglected to pay proper attention to similar operations by foreign surgeons.

We pass over the author's remarks on *Paracentesis Abdominis, Hepatic Abscess, Gastrotomy, Enterotomy, gastric and intestinal Fistulæ, Wounds of the Intestine*, &c. To the latter he devotes many pages and some excellent drawings.

Hernia is the subject of the next three chapters, and five plates, extending over more than forty pages. The chapters are subdivided into sections and subsections, as follows: on *hernia in general*, in which the author alludes in very proper terms to the faulty mode in which the anatomy of hernia is studied, great attention being paid to the normal appearances of the tissues in subjects where no hernia exists, and little or none to the *pathological anatomy* of ruptures; on the *general Pathology of hernia*, including an account of its envelops, its seat, the effects of its formation, its divisions into reducible, irreducible, and strangulated; on the *Treatment of hernia*, by reduction, by means instituted for effecting a radical cure, and, finally, by *Operation*, when the rupture has become strangulated, in each of its regional varieties.

We regret feeling compelled to say that we think this whole matter has been very imperfectly dealt with in the treatise before us, in view of the frequency of the disease, its importance among surgical affections, and the great amount of successful research which has been expended upon it, not only abroad but in some particulars, at least, in our own country.

In the section upon the "*means of radically curing reducible hernia,*" Dr. Smith says:—

> "After the reduction of a hernia, and the application of a truss, the patient is secure, for the time, from the dangers of strangulation; and though it has been asserted that radical cures have been effected by the constant use of the instrument inducing such adhesions and indurations of tissue as plugged up the ring, my opportunities (and they have not been slight) have never enabled me to see one well-grown adult who had obtained this result from the use of an instrument. In children and young persons, such a condition has been created as prevented the reproduction of the complaint for years; yet, even in these patients, the success has been far from constant. The most, therefore, that can be asserted of any truss is, that, after its application, the patient is not liable to a descent of the hernia, provided it fits well, and is constantly worn." (P. 413.)

From the above, it is evident that Dr. Smith adopts the antiquated notion that the manner in which a truss acts is by exciting inflammation in and about the apertures concerned in the transmission of the hernia, thereby "inducing such adhesions and indurations as plug up the ring." Trusses have, indeed, been constructed for the express purpose of exciting inflammation of the cellular tissue, fascia, and tendons, about the hernial orifices, so as to condense and agglomerate these into a common mass. But such instruments have been condemned as worse than useless; verdict was pronounced against them by the Committee appointed in 1835, by the Philadelphia Medical Society, to investigate the subject. This Committee declared strongly, "that the radical cure of hernia, by trusses, depends almost exclusively, if not entirely, upon the accuracy and permanency of the retention effected by the instrument; that considerable or long-continued irritation in the parts, so far from being an advantage, in reality opposes the successful treatment." (Final Report of the Committee, in the *Am. Journal*, vol. xx. p. 542.) Dr. Smith makes no mention of this capital report, nor of the volume on the same subject published by Dr. Chase of this city, and sanctioned by the approval and approbation of the above Committee; an omission which is unpardonable, when we consider that the trusses therein recommended, even if they do not produce a radical cure, in the opinion of Dr. Smith, nevertheless approach nearer to this desirable effect than any other. But the author has advanced his own experience and opportunities (which, though "they may not have been slight," have not, we should suppose, been so extensive as those of some other observers whom we shall presently mention) as conclusive respecting the want of reliance to be placed upon the truss for the permanent cure of hernia, even in children and young persons. The Committee of the Medical Society, above alluded to, in their first report, bear the following testimony upon this point:—

> "That success in cases of *umbilical hernia* in young children is almost general, when methodical bandaging has been judiciously employed; that in other varieties of hernia, affecting subjects of similar ages, success is by no means rare, *under the operation of trusses with soft pads*: that in children over ten years of age, it becomes rather uncommon; that in youths between the age of puberty and that of twenty years, it becomes rare; and after the latter period

very rare. . . . But the Committee have no hesitation in stating that the action of the several blocks, recommended by them, appears to offer much more prospect of radical cure, even under unfavourable circumstances, than any apparatus previously offered to the public." (*Am. Journal,* vol. xvii. p. 324.)

The same Committee state, in their final report, that—

> "All the individuals who have relinquished the use of the trusses approved by the Committee, after having worn them for six months or more, and who have afterwards been examined by a member, or by members of the Committee, have been subjected to the necessary tests, and are believed to be radically cured in the sense of the foregoing definition."

This definition is as follows: "A cure is radical when the tendons and fascial barriers to the egress of the bowel are brought or restored to their normal or original firmness and power of resistance." The Committee continues:—

> "A still larger number, who are still under treatment, give promise of a similar result; and others, who refuse finally to relinquish the instrument, on the advice of their surgeon, present, in the firmness of the rings, or in the absence of protrusion under exertions performed when the trusses are temporarily removed, very strong grounds for believing the cure to be radical in them also." (*Am. Journ.* vol. xx. p. 569.)

M. Malgaigne has found the treatment by trusses to be very successful between the ages of thirteen and thirty-five, a fact which he is disposed to ascribe partly to the frequency of hernia within this period of life, occasioned by undue bodily exertion. M. Verdier thinks that, prior to the age of puberty, we may count upon a permanent cure in three-fourths of the cases; during the early adult period, provided the rupture be recent and accidental, about two-thirds are relieved; as age advances, the proportion of cures decreases, so that of subjects above forty years old, not more than one in ten is radically cured. (*British and Foreign Medical Review,* vol. xiv.) Finally, the Committee, consisting of Drs. Hayward, J. M. Warren, and Parkman, appointed by the National Association to report on the "Permanent Cure of Reducible Hernia," concludes, after passing in review the different operations which have been practised for this object, "that compression, when properly employed, is, in the present state of our knowledge, the most likely means of effecting a radical cure in the greatest number of cases." (*Transactions of the American Medical Association,* vol. v. 254.)

But whatever may be Dr. Smith's individual notions on the subject of trusses as adapted to the radical cure of hernia, he should at least have stated the general principles to be followed in their construction, and have described those which are most approved of in this country. This he should have done, partly because the vast majority of surgeons, not only in this country but throughout the world, would certainly advise the wearing of a truss, before resorting to any of the unsatisfactory, and somewhat hazardous operations which have been devised; and partly because, even if the truss cannot produce a radical cure, it can at least be permanently worn, and thus prevent the descent of the bowel.

Having, however, summarily, and, as we trust we have shown, unwarrantably disposed of the truss, Dr. Smith proceeds to treat of the *operative* measures which have been resorted to for the cure of reducible hernia. Of these he describes only two, that of M. Gerdy, with which our readers are familiar, and that of Dr. Nott, of Mobile. The latter consists in the passage of a leaden wire around the neck of the sac, and through the pillars of the external ring, the sac having been previously exposed, opened, and partially "removed with the testicle to which it was adherent," and then the wire drawn tightly so as to approximate the pillars of the ring, and to compress the neck of the sac (p. 414). He also mentions that Dr. Jamieson, of Baltimore, performed a plastic operation for the radical cure of hernia; but the *modus operandi* he does not describe. Of these three operations, and indeed of all the operations, he prefers that of Dr. Nott. Now, that Dr. Smith should for a moment *think* of performing this operation of Dr. Nott, by which he would deprive a man of one of his testicles, *without the slightest necessity* for the horrible mutilation, and with no well-grounded hope that a permanent cure of his hernia will be accomplished, is surprising enough; but that he should really advise any one else to do so, that he should still farther print and publish such advice for the guidance of young men, is infinitely worse. "Do unto others as ye would have others do unto you," is the safest and wisest rule for the government of a surgeon in doubtful cases; we are very certain that Dr. Smith did not think of it when he penned that paragraph.

We do not blame Dr. Smith for not having described most of the other proceedings which have been from time to time advanced for promoting the radical cure of hernia, for we think they are generally powerless, if not worse, and are all inferior to the properly made and applied truss; such are the excision of the sac, either with or without castration; the employment of the ligature; the blocking up of the hernial canal with a piece of omentum, the hernial sac, or the testicle; the ingenious expedient of M. Belmas, consisting in the introduction into the neck of the sac of little globes of goldbeater's-skin or threads of gelatin; the plan of M. Bonnet, of compressing and obliterating the sac by means of pins passed through it, and through the integuments, and subsequently secured, &c. But the operations of subcutaneous puncture and scarification of the sac, which have for many years been resorted to in this country, should have been described. The mode of injection practised by Dr. Pancoast, and described by him in his *Operative Surgery*, an operation which is indorsed by the Committee of the American Medical Association, in the report before cited, "as the safest and best" of those which have been recommended; and the method of closing the external ring without exposing the sac, by the subcutaneous introduction of sutures through the pillars of the external ring, and subsequently approximating these by drawing upon the sutures—these methods should certainly have received from Dr. Smith respectful consideration, inasmuch as they are American suggestions, and have not, moreover, proved unsuccessful. We may remark, in this connection, that Dr. Smith has omitted to state that a very excellent and condensed account of the various methods that have been employed during the last eighteen centuries, for the cure of reducible hernia, was published by Dr. Bryant, of Boston, being the *Boylston Prize Essay* for 1847.

In describing the treatment of *Strangulated Hernia*, the author dwells fully upon the taxis, and makes some very judicious remarks upon the impropriety of continuing such efforts too long, as the success of the subsequent operation is rendered thereby a matter of doubt. In his account of the operation for strangulated hernia, he has purposely limited "the description to such details as are most frequently demanded, several complications have therefore been intentionally omitted, lest reference to them should tend to embarrass the mind of the young surgeon, and render the operation unnecessarily difficult." This kindness may be all very well in its intentions; but we submit that these complicated and unusual cases are the very ones in which "the mind of the young surgeon" chiefly needs assistance; and that it is very unkind in Dr. Smith to leave him with nothing but vague generalities to fall back upon, when if a separate section had been devoted to these obscurities, the main operation would not have been mystified, and difficulties might have been explained and lessened.

Dr. Smith says that—

> "The division of the stricture without opening the sac has been sanctioned by Mr. Key, and others of high authority; but the propriety of it, as an operation adapted to the inexperienced surgeon, is deemed by many others a matter of doubt. The greatest objection to it is the risk that is always run of reducing the hernia in mass, when, if strangulated by the neck of the sack, death will probably ensue."

He therefore does not describe the operation, or say anything more about it. But he neglects to state that one great advantage which this proceeding possesses is the less danger of peritoneal inflammation following the operation. *Experience* has induced such distinguished men as Mr. Key, Mr. Liston, Mr. Luke, Mr. Teale, and others, to resort to this plan. Mr. Liston, after having at first discountenanced it, subsequently urged it strongly. Mr. Teale reports 32 cases in which the stricture was divided exterior to the sac; 27 of these recovered; 18 were femoral, 11 inguinal, and 3 umbilical hernia. Mr. Luke operated in 82 cases; in 57, the sac was not opened, of which 7 died; in 25 it was opened, and 8 died. Mr. Gay gives a table embracing 198 cases; the sac was opened in 125, of these, 52 died; the sac was not opened in 73, of these, 13 died. (*Brit. and For. Med.-Chirurg. Rev.* No. V. p. 167.) Now, if these results be compared with those adduced by Dr. Smith as indicating the success of the ordinary operation, they will stand thus:—

Smith, ...	42 cases,	11	deaths,	against
Teale, ...	32 "	5	"	
Gay, ...	73 "	13	"	
Luke, ...	57 "	7	"	

In view of these *facts*, would it not have been better if Dr. Smith had fairly stated the respective advantages and disadvantages of the two methods; and devoted a page or two, if necessary, to the best mode of avoiding the risks, and at the same time of securing the benefits of the external division of the sac, instead of passing it over altogether in the hasty manner which we have pointed out?

The same question is applicable, although with less force, to his remark concerning the subcutaneous division of the stricture recommended by Guérin, of which he says: "it is, in my opinion, a dangerous and uncertain operation." But we find that the operation has been performed several times successfully by an American surgeon, Dr. Pancoast; and we think, therefore, that it came fairly within the scope of Dr. Smith's book. Dr. Pancoast limits its application to those forms of recently strangulated inguinal hernia, where the surgeon is so well satisfied of the state of the contents of the sac as to be willing to restore them by the ordinary taxis, if that were practicable, and where the seat of the stricture can be detected at the external ring. (*Trans. Am. Med. Assoc.* vol. iii. p. 373.)

We cannot enter into a minute examination of the author's chapter on *Femoral and Umbilical hernia;* we must state, however, that they are, in some measure, open to the same criticisms as those which we have passed upon his remarks concerning inguinal rupture.

Respecting the pathology and treatment of the unusual varieties of hernia—the ventral, obturator, ischiatic, perineal, vaginal, pudendal, diaphragmatic, the hernia Litrica, &c.—not a word is said, excepting the casual remark, in the section on the *seat of hernia*, that hernia has been seen at some of the weaker parts of the abdominal cavity below, "and especially at the point of exit of its arteries, as at the obturator foramen, or opening for the thyroid artery; at the sacro-sciatic notch, where the gluteal artery passes out, and also alongside of the vagina of the female, or through a laceration of the perineum of the male." (P. 404.)

The operations for *Ligature of the Iliac Arteries* are well described; and interesting statistical statements, historical facts, beautifully executed drawings, &c. accompany the descriptions.

A chapter upon *operations practised upon the Back*, including several performed for *Spina bifida*, closes the third part of the volume.

The *fourth part* is taken up with a description of *operations on the Genito-urinary organs and Rectum.*

The *anatomy* of the male organs is cursorily described; and then we are introduced to the operations practised upon them.

Quite a variety of surgical proceedings for the cure of *Phymosis* and *Paraphymosis* is unfolded to us, and each is well illustrated. The operation which Dr. Smith prefers for the relief of phymosis is *Cloquet's*, in which a director is introduced between the glans and prepuce, *by the side of the frænum*, and the foreskin divided by a bistoury. He says:—

> "Frequent opportunities of testing the advantages of the plan of Cloquet having satisfied me of its value, I do not hesitate to recommend it as that best adapted to the adult; because it fully exposes the glans, and leaves little or no lateral deformity, as is frequently the case in the dorsal incision. Should the existence of chancres near the frænum, or other circumstances, prevent its performance, and compel the adoption of the dorsal cut, I should prefer excising the two flaps and uniting the mucous membrane and skin at the line of the corona, so as to leave the glans permanently uncovered." (P. 481.)

The important operation of *Catheterism* is rather too hastily disposed of. Under ordinary circumstances, the urethra being of the average capacity, free from undue sensitiveness, and from obstruction of any kind, the introduction of a catheter into the bladder is a very simple affair, requiring nothing more than gentleness on the part of the surgeon; so that any young man, of ordinary address, who has spent a week in a surgical hospital, can accomplish it. But in the cases which most frequently require the operation, the urethra is not altogether in a normal condition, and more or less difficulty is experienced. For such cases, for which alone assistance is sought, the book before us does not furnish the detailed advice, and the numerous and varied expedients which are often demanded.

Six pages and numerous drawings are devoted to *Strictures of the Urethra.* A few remarks are first made upon the *pathology* of strictures, the *seat* of the obstruction, its *diagnosis*, &c. Then the several plans of treatment are described, briefly; by *dilatation*, by *incision*, internal and external; and by *caustic.* Finally, the consideration of the subject is concluded by a few general observations, expressive of Dr. Smith's views as to the comparative merits of the different modes of treatment. We quote the last sentence:—

> "In the treatment of old and dense strictures, I should prefer, therefore, the treatment by cauterization; in those which are small and recent, the employment of bougies for the purposes of dilatation; but in impervious strictures, or in a bad case of retention of urine, I would resort to Physick's stylet." (P. 497.)

We regret to say that, in our judgment, this important subject is very imperfectly treated by Dr. Smith. We believe that we speak the sentiments of the vast majority of surgeons, not only in this country, but abroad also, in saying that the treatment by *dilatation* is more generally applicable than any other, and that it is sufficient for the cure of most cases of stricture of the urethra. It is a method, however, which requires considerable judgment on the part of the operator, and therefore it should have been fully described in the book before us. We will quote what Dr. Smith says concerning it:—

> "As the dilatation of a stricture can only result from a force which acts from within, it is evident that this mode of treating the complaint is only applicable to such as are sufficiently free to permit the entrance of the bougie, and sufficiently flexible to permit of their being distended. Dilatation is therefore usually accomplished by first passing a large bougie down to the stricture, in order to show its distance from the *fossa navicularis;* then passing one sufficiently fine to penetrate it, and then another, each of them being allowed to remain a moderate length of time, when they should be withdrawn, and subsequently replaced by those of greater bulk, until at last the stricture is sufficiently distended to permit the free passage of the urine.
>
> "Bougies made of the bark of the ulmus fulva have been suggested, within the last few years, by Dr. Waters, of Maryland, as especially advantageous in dilating strictures; but personal experience has shown me that they are brittle, dangerous, and have no advantage over the bougie of gum-elastic. Those of gutta percha are also objectionable, and have been broken off in the canal." (P. 491.)

This is all that is said concerning dilatation, except that, in the general remarks upon the treatment of stricture, we are cautioned against supposing that the disease is cured as soon as we have succeeded in introducing a large catheter, because the passage will contract again; therefore, we are urged to continue the use of the bougie for a long time.

Now, we would ask, is anything but mischief likely to follow, if a surgeon should attempt to dilate a stricture of the urethra by following strictly the precepts which Dr. Smith has inculcated in the above quotation? For, from the absence of all qualification and caution on this point, we might fairly infer that the whole difficulty, so far as the mere dilatation is concerned, is to be overcome at a single sitting. We are told simply to introduce bougie after bougie, of constantly increasing diameters, allowing each one to remain for a moderate length of time in the stricture, until a free stream of urine can pass along the urethra. Dr. Smith advises no preparatory treatment by rest and regimen, or by medicinal aid, for the purpose of subduing any unusual or undue irritability of the system, or of the part; he does not tell us that, after we have succeeded in passing a bougie just large enough to enter within the stricture, we cannot sometimes retain it there more than a few moments, in consequence of the excessive pain which its presence occasions; he does not say how long the instrument may be permitted to remain; nor does he furnish us with criteria by which we may ourselves judge; for the expression, *a moderate length of time*, may mean a minute, or an hour, or a day; he does not hint that severe nervous symptoms not unfrequently follow even the prudent use of the bougie, nor does he, of course, advise what is to be done to relieve them; he does not guard us against the danger of creating a false passage; he does not indicate the length of time which should be allowed to pass before the introduction of an instrument should be again attempted; nor does he signify whether the patient is to be confined to bed or to the house, during the entire treatment, or to be allowed to spend his time as usual, in walking, working, riding, &c.; whether he is to be dieted, or to be suffered to eat whatever he chooses.

That there are two modes of dilatation practised, Dr. Smith does not mention, viz., one gradual, occupying some weeks, and the other accomplished sometimes in a few days; neither does he allude to the modification of the ordinary method, by which the bougie is made to bear against the *anterior* face of the stricture, instead of exerting an eccentric pressure around its channel, until, by repeated applications of the instrument in this position, at proper intervals, the obstruction is gradually worn away by the "*tunnelling process*," as it is called. Nor is the application of *external pressure*, to aid the operation of the instrument acting from within the canal, noticed by Dr. Smith.

As to *the means* by which the dilatation is to be effected, we can only infer, from one of the sentences above quoted, for the author does not distinctly advise any particular instrument, that he prefers the *gum-elastic bougie*, which, we suspect, is generally regarded as far less efficient than the common silver catheter, or any of the metallic bougies. We find no allusion made to Arnott's fluid dilator, nor to the metallic dilators, nor to the ingenious instruments of Mr. Wakley, described and figured in the *Lancet*, vol. i. 1851—a series of silver and gum-elastic tubes, increasing very gradually in diameter, of which the smallest silver tube is passed through the stricture, the next larger slid down over the first, &c. &c. until a sufficient effect is gained; the operation to be repeated at different sittings, and in the intervals a gum-elastic tube to be left, if necessary, in the bladder.

In short, we repeat that no information is to be gleaned from Dr. Smith's exposition of the mode of treating stricture of the urethra by dilatation.

Equally brief and imperfect are his remarks upon the treatment by *incision*, concerning which there should have been, we conceive, even more circumspection, minuteness of direction, and completeness of explanation, than with reference to the mode just spoken of, because there is much greater danger attending the former than the latter. We cannot, of course, expect in a treatise, so general and comprehensive as Dr. Smith's, that the numerous subjects treated of will be unfolded and developed as thoroughly as should be done in monographs. But we certainly have a right to look for something more finished than the author's commentary upon the treatment of stricture by *incision*. He says of it that it may be either *internal* or *external*. Of the former, he writes:—

> "As some strictures are too dense to admit of dilatation, or so tight, or so situated as to render it difficult or impossible to enter them, it has been suggested that it would be preferable to cut through the induration by means of a lancet applied so as to act through the canal itself. Such an incision is especially demanded in cases where it is required to evacuate the bladder promptly, or to those where the resistance forbids the hope of any advantage from dilatation."

And further on, after selecting only Dr. Physick's stylet catheter, and Dr. Chew's modification of it, as the instruments which are "especially good" for the performance of the operation, he directs how the instrument is to be forced through the obstruction, and adds that, after this is effected, a catheter must be introduced into the bladder and allowed to remain there until the incisions have healed, and that subsequent contraction is to be prevented and permanent dilatation maintained by the constant use of bougies. (Pp. 491–25.) Beyond this, we believe there is nothing on the subject of treatment by *internal incision*.

Dr. Smith says that the incision is especially demanded when it is requisite to evacuate the bladder promptly, or when the resistance of the stricture forbids any hope of advantage from dilatation. (P. 492.) Any one of the ordinary methods of puncturing the bladder is certainly more *promptly* executed than the cutting through a stricture, if it be sufficiently dense and extensive to warrant incision at all, by internal division. And, as to the expediency of the attempt, we suspect that the general voice of the profession would be in favour of opening the urethra externally, posterior to the stricture, or of the recto-vesical puncture, rather than of attempting to reach the bladder by dividing the stricture internally, if the obstruction be behind the triangular ligament of the urethra. It is certainly much safer to limit the internal division of stricture to those cases in which the obstruction is situated within the straight portion of the canal, and the nearer it is to the orifice of the urethra the more readily and safely is it divided. If there is danger of making a *false* passage, and otherwise injuring the walls of the urethra, by the simple catheter or the bougie, while treating a stricture, there surely is greater risk of so doing with a cutting instrument. And this liability is very much increased when a curved instrument is used in the posterior portion of the canal; although, perhaps, Dr. Chew's styletted catheter guards against this danger better than any other of the curved instruments.

Dr. Smith very justly regards this operation as an adjuvant merely, directing that the catheter or bougie be properly employed afterwards.

Dr. Smith dismisses the subject of *external incision* of the stricture in very few words:—

> "In some cases of stricture where it was impossible to pass an instrument, and especially in patients who had stricture in advance of the bulb, the older surgeons made a button-hole incision from without inwards."

He then directs how this incision is to be made, and indicates the subsequent treatment. He merely alludes to the operation which has, within a few years, given rise to so much discussion in Great Britain, as "that which has been so highly lauded by Mr. Syme, of Edinburgh;" but he says not another word concerning it. There can, however, be no question that *when it can be performed in the mode directed by Syme*, this is a much safer and easier operation than the other, for it requires that the incision shall be made upon a grooved staff previously passed through the stricture; whereas, in the ordinary proceeding, the instrument is introduced as far as the obstruction, and the incision is practised behind the latter upon the unstrictured part of the canal without any guide save the eye, and occasionally the distended urethra behind the stricture. Mr. Syme's operation, therefore, should have been described.

But in the course of his observations upon incision, both internal and external, Dr. Smith does not hint at there being any dangers connected with the operation. Yet we know that patients have been endangered, and have even died in consequence, directly and indirectly of incision, particularly of the external incision, from various causes; *e. g.* from hemorrhage; from urinary infiltration; from abscess of the perineum and within the pelvis, ending in death from hectic fever; from pyæmia, &c. During the recent and more or less acrimonious discussions between the champions and the opposers of the operation so highly recommended by Mr. Syme, many fatal cases following this procedure, under the most skilful hands, have been published. (See the *London Lancet*, 1850, 51, 52.)

For the application of *caustic* to the stricture, Dr. Smith recommends that a large catheter, open at both ends, be passed down as far as the obstruction, and within this a smaller one from the urethral extremity of which the caustic, either caustic potassa or the nitrate of silver, projects about two lines; the caustic is permitted to remain a short time in contact with the stricture, the alkali *thirty seconds*, the lunar caustic from *one to three minutes*: then the smaller canula is withdrawn, and sweet oil or a solution of chloride of sodium, according to the caustic substance used, is injected through the larger instrument. This operation is to be repeated at the end of from three to eight days, and again as often as may be necessary. He does not attempt to establish the comparative merits of the two substances, or to assign to each a group of cases upon which it exerts the best influence.

Dr. Smith thinks that the good effect of the caustic is due to the production of an *eschar*, which induces "a certain amount of action in the surrounding parts, which increases the activity of the absorbents and hastens a permanent cure," (p. 495;) and he states that, in the employment of the caustic, "the principal object is to retain the caustic in contact with the constricted part sufficiently long to produce an eschar." (P. 493.)

That the caustic, particularly the *potassa*, does sometimes produce an eschar, with consequent loss of substance, we do not doubt; but we do not think that such a result is generally sought for by those who employ it in the treatment of stricture, nor do we believe that this is a desirable effect of its action. For the mucous membrane must be sacrificed as well as the subjacent deposit; and, as Dr. Smith well observes, "the ulceration resulting from the separation of the eschar always tends to union by granulation rather than by actual contact, as is the case in incisions," (p. 495;) now a considerable degree of *contraction* always accompanies the process of healing by granulation, by which the canal of the urethra will almost inevitably be made smaller than before, and by a more unyielding cicatrix. But it is not at all improbable that the state of active congestion or inflammation excited by the caustic may occasion such a modification of vitality in the fibrinous deposits beneath the mucous membrane, and in the latter itself, as to effect their solution and absorption just as we often see an indurated lymphatic gland, or a hard and elevated spot in the cellular tissue, become softened and restored to its normal condition by the action of a blister, and this without any destruction of vitality or loss of substance. Another very important and constant effect of the caustic, when delicately applied to the urethra, and Dr. Smith has strangely overlooked this, is to diminish the morbid sensibility of the lining membrane, so that a stream of urine can be passed larger than previously, although the actual capacity of the canal, judged of by the size of the bougie which can be introduced, seems not to have become increased. On these two effects of the caustic, then, the diminution of sensibility and irritability, and the gradual absorption of the adventitious deposits, depend, we suspect, the good accomplished by its employment in stricture, and not as a general rule, certainly, upon any actual escharotic action.

Abundant materials for a well-digested chapter on the treatment of stricture of the urethra certainly exist, and the space required is not very large in order to exhibit the mode of performance, the comparative merits, and the individual applicabilities of each, its dangers and their antidotes. We do not think that Dr. Smith has, by any means, produced such a chapter.

We are compelled to pass hurriedly along in our notice of many subjects, and to permit some to go without remark; not intending, however, to disparage thereby the manner in which they have been discussed by Dr. Smith. We will merely call attention to the numerous operations upon the *Spermatic cord* and *Testicles*, which are described and beautifully illustrated; to the very full and fair account given of *Stone in the Bladder*, with the various methods of treatment, the accidents which may attend or follow the operations, &c. &c. In consequence of the facility with which *lithotripsy* may be performed, Dr. Smith does not regard the operation of lithotomy as justifiable in the female.

A number of pages and drawings are allotted to the consideration of *Vesico-*

vaginal Fistula. This affection, so annoying to the patient and so troublesome to the surgeon, has attracted a good deal of attention on the part of many of our countrymen; foremost amongst whom stand Dr. Hayward, of Boston, Dr. Mettaüer, of Virginia, and Dr. Sims, of Alabama. The operations practised by these gentlemen resemble each other in requiring that the edges of the fistulous orifice shall be freshened by excision, and then united by means of sutures; but they differ in the kind of sutures used, and in the mode of their application. Dr. Hayward employs the ordinary interrupted suture; Dr. Mettaüer the same, the threads being of lead, however, instead of vegetable or animal material; and Dr. Sims a modification of the quilled suture, with fine annealed silver wire. The latter gentleman has studied diligently all the steps of the operation, and has contrived numerous instruments adapted to each. These proceedings are quite fully detailed by Dr. Smith, so that his chapter on vesico-vaginal fistula is a very instructive one.

One source of failure in all these operations is the unusual strain which bears upon the mucous membrane, when the edges of the wound have been approximated. It is a little surprising that a simple expedient has not suggested itself to the minds of those who have so often operated for the cure of this affection, by which the difficulty alluded to may be in a great measure overcome. We refer to the making of incisions through the mucous membrane, at such points as will permit the necessary yielding of the tissue. This constitutes the *autoplastie par glissement,* or *par locomotion* of the French surgeons; and it has been advantageously applied to many operations, as, for example, to some practised upon the eyelids, by Dieffenbach to the treatment of laceration of the perineum, as noticed by Dr. Smith in his account of this accident (p. 551), and by Dr. Warren to the operation of staphyloraphy. Indeed, this expedient constitutes an important feature in the operations performed by Jobert, for vesico-vaginal and recto-vaginal fistula; he pares the margins of the fistula, unites them by interrupted suture, and then makes incisions through the mucous membrane near to the closed wound, sufficiently extensive, and of such forms as to allow the membrane to slide a little on each side of the fistula, or, in other words, to allow its two margins to approach each other, and thus to permit of the filling up of very considerable deficiencies. (Jobert, *Traité des Fistulus.*)

There are two modifications of vesico-vaginal fistula, which Dr. Smith has omitted to describe. One, in which the fistulous orifice opens into the canal of the cervix uteri; the other, where a portion of the neck of the uterus and the vagina have been destroyed at the same time, and by the same cause as the basfond of the bladder, thus creating a *vesico-utero-vaginal* fistula, in contradistinction to the first, which is a *vesico-uterine* fistula.

The *vesico-uterine* fistula was described by Madame Lachapelle, afterwards by Stoltz, of Strasbourg (*Mémoire sur les Perforations du Col de l' Utérus et les Fistules Vésico-utérines et Vésico-abdominales à la suite de l'Accouchement*), and during the last year by M. Jobert de Lamballe; this last account, however, was published after Dr. Smith's book, so that, of course, he had it not to refer to. In this affection, the fistula is seated in that portion of the bladder which rests upon the neck of the uterus, and in the latter, commonly below the point of the peritoneal reflection, so that the abdominal cavity is not opened. It is produced in consequence of the pressure of the child's head during parturition. Owing to its secluded position it is easily overlooked; it must be ferreted out by means of a speculum introduced into the vagina, by which a careful examination of the os tincæ can be made, and the urine can be seen trickling from it; but the surest way of arriving at a positive diagnosis is to pass a catheter or a sound into the cervical canal, and another through the urethra into the bladder, where the two will come in contact, if the fistula exists. The seat of the fistula having been discovered in the anterior wall of the canal of the cervix, it is yet a difficult matter to subject it to any kind of examination; but M. Jobert has overcome this difficulty. He found, by repeated anatomical investigations, that the cervix uteri could be slit up as high as the line of the attachment of the vagina, without opening the cavity of the abdomen, and without dividing any considerable vessel, provided the incisions be made laterally along its commissures. He therefore recommends, for the treatment of this fistula, that the neck of the womb be drawn down by means of volsellæ, and that, with strong scissors, an incision be practised, in the way described, through the neck on each side; thus an anterior and a posterior flap are formed. The anterior flap can now be thrown upwards, and the fistula will be exposed to view. Then, the edges of the false passage through the neck of the uterus and the bladder must be freshened by the knife, and the margins of the wound, now resembling a simple incised wound, must be accurately approximated by sutures. If the wound becomes firmly closed, the fistula is, of course, cured. But if complete union does not take place, M. Jobert resorts to another expedient. He makes raw the whole of the canal of the cervix below the fistula, and freshens the edges of the anterior and posterior flaps of the neck of the uterus, and then unites these flaps by sutures. Thus the communication between the interior of the womb and the vagina is entirely obliterated, so that the menstrual blood, instead of escaping by the vagina, now finds its way through the fistulous opening into the bladder, and escapes *via* the urethra. M. Jobert describes very fully a case in which he succeeded perfectly in curing a vesico-uterine fistula by the first of the operations here mentioned.

Sometimes, as in the case reported by M. Stoltz, the posterior wall of the cervix uteri, as well as the anterior, is implicated to a great extent; but inasmuch as the peritoneum dips down between the vagina and rectum much lower than in front between the vagina and the bladder, there is very great danger that the abdominal cavity will be opened. Such was actually the case in the instance described by M. Stoltz, and the patient of course died.

In the *vesico-utero-vaginal* fistula, there is not a simple fistula through the anterior wall of the neck of the womb, but this part is largely destroyed, together with that portion of the vagina which is in relation with it. There is consequently a large chasm, through which the urine escapes, partly into the cervical canal and partly directly into the vagina, having a sort of pocket behind, formed of the remains of the cervix uteri. The operation which M. Jobert employs to relieve this great evil, is the same in principle as that already described. The neck of the uterus is drawn towards the vulva, as far as the abnormal adhesions will permit, the margins of the whole fistula are pared and approximated by sutures, and the posterior wall of the neck of the womb, its surface having been first made raw, is brought forwards and attached by sutures to the remains of the vesico-vaginal septum so as to fill up the gap. Thus the cavity of the uterus is shut off from all communication with the vagina. An important step in this proceeding consists in making incisions of varying extent, and at different parts of the vagina, to facilitate the approximation of the edges of the fistula. M. Jobert reports minutely *four* cases treated in this manner: *three* were cured, and *one* died of peritonitis, on the fifth day after the operation. (*Traité*, pp. 56–122.)

The remaining pages of this part of the volume are devoted to operations practised upon the *Uterus* and *Ovaries*, and upon the *Rectum*. The author's remarks concerning *Ovariotomy* are quite full and fair; the different operations are well described; statistics of their results are also quoted; and a variety of important details is given. After stating the opinions of several distinguished surgeons, as to the propriety of an attempt to remove ovarian tumours by operation, Dr. Smith remarks:—

> "From an examination of these opinions, and they are certainly those of great professional worth, and might be readily augmented, did my present space permit, we are, I think, justified in concluding that the majority of ovarian tumours cannot be controlled by medicine; that their natural course is to terminate fatally in about five years; that tapping them is attended with considerable danger; and that, when they create great distress to the patient, and the latter is fully informed of the possibility of failure or the chance of death, such tumours are proper subjects for an operation." (P. 576.)

Before leaving this part of the book, we would beg to call Dr. Smith's attention to the fact that he has omitted all notice of the various modes of *Puncturing the Bladder.*

The *fifth*, and last part of Dr. Smith's volume embraces descriptions of *operations on the Extremities.* It includes an account of *inverted Toe-nail*, and the modes of treating it; of *Paronychia; enlarged Bursa; painful condition of the Nerves; Varicose veins; Tenotomy; Ligature of arteries; Resections*, and *Amputations.*

Dr. Smith entertains but an indifferent opinion of most of the operations performed for the cure of *varicose veins.* The only plan of treatment which he has thought proper to describe is that pursued by Dr. Watson, of New York, and published by him in an able paper in the *American Journal*, vol. v. N. S. It consists in effecting compression upon the veins by means of pieces of wax bougie secured by rollers. Dr. Smith concludes his remarks on this affection as follows:—

> "After the references already made to the treatment of this complaint, the reader must be aware that I deem little more requisite in the way of an operation upon varices, than such pressure as can be obtained by pursuing the judicious plan advised by Dr. Watson. It, or the laced stocking, or both, are capable of accomplishing quite as much in the treatment of varices of the limbs, as either caustic, excision, incision, perforation, or any of the numerous other plans usually referred to." (P. 609.)

In his account of *Ligature of the arteries of the extremities*, Dr. Smith points out the anatomical relations of these vessels, and describes the most approved methods of tying them.

We think it not a little surprising that in this whole book, which professes to express the opinions of American surgeons, and the state of American surgery, not a word is said concerning the revived plan of treating aneurism by *Compression.* Dr. Smith is aware that several of our surgeons have resorted to it successfully, and that the subject has been urged upon the consideration of the profession through the National Association; and we cannot doubt that he regards it, whenever it seems applicable, as infinitely preferable to the other mode of treatment, which he so fully describes. We had expected to find it well explained, with illustrations of the best instruments to be employed, and an exposition of the statistical results of the treatment.

Resection of bones receives its due share of consideration. On this subject we have already offered some remarks, in which we noticed some important omissions on the part of Dr. Smith. The plates introduced to illustrate this part of the treatise are numerous and well executed, and the operations described embrace all the prominent ones.

With regard to Dr. Smith's exposition of *Amputation*, we have only to say that he follows the French authorities chiefly, than whom there can be no better, so far as the performance of the operations is concerned. The cases demanding this last resort, the different modes of amputating, the dangers attending the removal of the part, the subsequent treatment, &c., are all discussed. This portion of the book may be referred to with profit.

We have now finished our task. It has not been possible for us to examine in this review, more than a very few of the most important subjects discussed by Dr. Smith, which we have selected as fair specimens of the whole. We have endeavoured to exercise a spirit of candor and impartiality in our judgment of the book. And while we have seen some errors, and taken note of many omissions, we have also observed a great many excellences; so that we can cheerfully commend the treatise as presenting a valuable and useful compendium of operative surgery, suitable for study or reference.

We cannot, however, without considerable qualification, admit that it is "a system of operative surgery based upon the practice of surgeons in the United States," as the title-page sets forth; we find a great deal more of foreign than of domestic material contained in it. But, as we have already hinted, we do not think that this is by any means an objection to the book, or that its value is at all diminished thereby; quite the contrary; for, by reason of a great many circumstances which are too well understood to occasion surprise, much less has been done for surgery in this country than abroad. On the other hand, we should have supposed that, had Dr. Smith used the same diligence in obtaining the experience of *all* our prominent surgeons, as he has manifested towards Dr. Warren, of Boston, and the late Dr. Horner, of this city, the amount of indigenous matter would have been much augmented. There are many of our surgeons of distinction, of well-known ability and learning, who are not so frequently alluded to, or so well represented in the book, as might have been reasonably anticipated. As it stands, however, the volume before us is a valuable addition to our endogenous surgical literature; because, independent of other excellences, it is a repository of numerous and important facts of historical as well as of present practical interest, which, but for some such storehouse, would be comparatively unknown, and might be forgotten.

In conclusion, we must express our sincere hope that Dr. Smith's labors will be rewarded by a demand, in due time, for a second edition of this treatise, in which the faults we have noticed, and perhaps others which his own observation will detect, now that the toils of composition and the annoyances and distractions of preparation are over, may be easily corrected, and such improvements and additions be made, as his progressive experience and acquirements can supply. We would also suggest that the style of the book is susceptible of considerable amendment, as will be evident to our readers from the numerous quotations which we have herein introduced. F. W. S.